Student Worksheet

Pleurocoelus Trackway

1. Locate the display that contains the *Pleurocoelus* trackway. Identify the *Pleurocoelus* tracks (there is a single *Acrocanthosaurus* track in the display). Estimate and record *Pleurocoelus*' foot length and stride length. (Remember that stride length is the distance between the heel of one foot and the heel of the same foot, one step later.)

   foot length = _____m stride length = _____m

2. Determine the hip height of *Pleurocoelus* using the following equation:
   hip height = foot length x 4

3. Using the following equation, calculate *Pleurocoelus*' speed.

$$\text{speed} = \left(\sqrt{(\text{hip height})(9.8\ \text{m/s2})}\right)\left(\frac{\left[\frac{\text{stride length}}{\text{hip height}}\right]-0.77}{1.33}\right)$$

   speed = _____ m/s

4. Use the following formulas to estimate *Pleurocoelus*' gait.

   walking: stride length/hip height < 2.0
   trotting: stride length/hip height = 2.0 to 2.9
   running: stride length/hip height > 2.9

   Pleurocoelus was probably walking / trotting / running. (Circle one.)